

Abstract

The present invention relates to methods and products for the transepithelial systemic delivery of therapeutics. In particular, the invention relates to methods and compositions for the systemic delivery of therapeutics by administering an aerosol containing antibodies or
5 conjugates of a therapeutic agent with an FcRn binding partner to epithelium of central airways of the lung. The methods and products are adaptable to a wide range of therapeutic agents, including proteins and polypeptides, nucleic acids, drugs, and others. In particular embodiments the conjugates are fusion proteins in which a therapeutic polypeptide is joined at its C terminal end through a peptide linker to the N terminal end of an immunoglobulin Fc
10 gamma heavy chain, wherein the linker includes Glycine and Serine residues and is preferably 15 amino acids long. In one embodiment the fusion protein includes an interferon-alpha 2b (IFN- α 2b) joined at its C terminal end through a peptide linker having a sequence Gly-Gly-Gly-Gly-Ser-Gly-Gly-Gly-Gly-Ser-Gly-Gly-Gly-Gly-Ser (SEQ ID NO:29) to the N terminal end of a human Fc γ 1 heavy chain. The methods and products have the advantage of
15 not requiring administration to the deep lung in order to effect systemic delivery.